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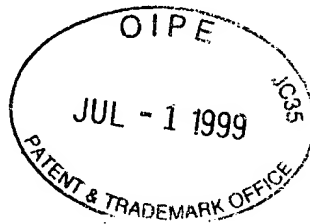
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1772-10715  
S.N. 09/121,020  
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Attest



[54] **MOBILE COMMUNICATION TERMINAL EQUIPMENT USABLE FOR BOTH SATELLITE AND TERRESTRIAL COMMUNICATIONS**

[75] Inventors: **Katsuhiko Aoki; Makio Tsuchiya; Seiya Inoue**, all of Amagasaki, Japan

[73] Assignee: **Mitsubishi Denki Kabushiki Kaisha**, Tokyo, Japan

[21] Appl. No.: **208,707**

[22] Filed: **Mar. 11, 1994**

[30] **Foreign Application Priority Data**

Mar. 18, 1993 [JP] Japan ..... 5-058612

[51] Int. Cl.<sup>6</sup> ..... **H04Q 7/32**

[52] U.S. Cl. .... **455/54.1; 455/12.1; 455/62; 455/89; 379/59**

[58] Field of Search ..... **455/12.1, 33.1, 455/54.1, 56.1, 62, 89, 93, 84, 13.1; 379/58, 59**

[56] **References Cited**

**U.S. PATENT DOCUMENTS**

4,873,711	10/1989	Roberts et al.	379/58
5,175,872	12/1992	Borras	455/89
5,179,360	1/1993	Suzuki	455/93
5,187,809	2/1993	Rich et al.	455/89
5,303,393	4/1994	Noreen et al.	455/89
5,327,572	7/1994	Freeburg	455/33.1
5,369,803	11/1994	Hirasawa et al.	455/89

**OTHER PUBLICATIONS**

Del Re, "An Integrated Satellite-Cellular Land Mobile System for Europe".  
 "Cellular System Dual-Mode Mobile Station-Base Station Compatibility Standard", EIA/TIA Interim Standard, Telecommunications Industry Association, pp. 257-274, Apr. 1992.

"Intelsat TDMA/DSI System Specifications" (TDMA/DSI Traffic Terminals) IESS-307 Rev. B, Mar. 12, 1991.

Primary Examiner—Edward F. Urban

Attorney, Agent, or Firm—Rothwell, Figg, Ernst & Kurz

[57] **ABSTRACT**

A mobile communication terminal equipment is mounted in a vehicle and can utilize both the satellite and terrestrial communication systems. The mobile communication terminal equipment includes a satellite transceiver and a portable set. The satellite transceiver has a satellite transmission/reception circuit. As required, the portable set is disconnected from the satellite transceiver to be carried by the user. The portable set includes a terrestrial transmission/reception circuit, a signal input/output circuit and a connection selecting switch. The connection selecting switch is automatically controlled to connect the signal input/output circuit selectively to one of the satellite and terrestrial transmission/reception circuits. When the satellite transmission/reception circuit is in connection with the signal input/output circuit, the communication through the satellite wireless communication system can be carried out. When the terrestrial transmission/reception circuit is connected to the signal input/output circuit, the communication through the terrestrial wireless communication system can be carried out.

18 Claims, 24 Drawing Sheets

